



DoD Technology Transfer and Transition Opportunities

July 6, 2006

Mrs. Cynthia E. Gonsalves
Acting Director, Office of Technology Transition
Associate Director, Technology Transfer & Transition

cynthia.gonsalves@osd.mil

(703) 607-5315

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 06 JUL 2006		2. REPORT TYPE		3. DATES COVERED 00-00-2006 to 00-00-2006	
4. TITLE AND SUBTITLE DoD Technology Transfer and Transition Opportunities				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Department of Defense, Office of Technology Transfer and Transition, Washington, DC, 20310				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 30	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			



Defense Research & Engineering

Director of , Defense Research & Engineering
Mr. John J. Young, Jr

Acting Deputy Director,
Defense Research & Engineering
Mrs. Sue Payton

Dir, Plans & Programs

DTIC

Dr. William Rees
**DUSD, Laboratories
And Basic Sciences**

Dr. Andre Van Tilborg
**DUSD, Science &
Technology**

Dr. Tony Tether
**Defense Advanced
Research Projects**

Ms. Sue Payton
**DUSD, Advanced
Systems & Concepts**



FY 2007 RDT&E President's Budget Request

DDR&E/AS&C Transition Programs are Highly Leveraged across Service and Agency Budgets
Less than 1% of RDT&E each year

Components (All RDT&E)	\$B
USA	10.9
USAF	24.4
USN/USMC	16.9
Def Agency & SOCOM	20.8

(BA6 + BA7 = \$27.23B)

Development
(BA4 + BA5 = \$34.66B)

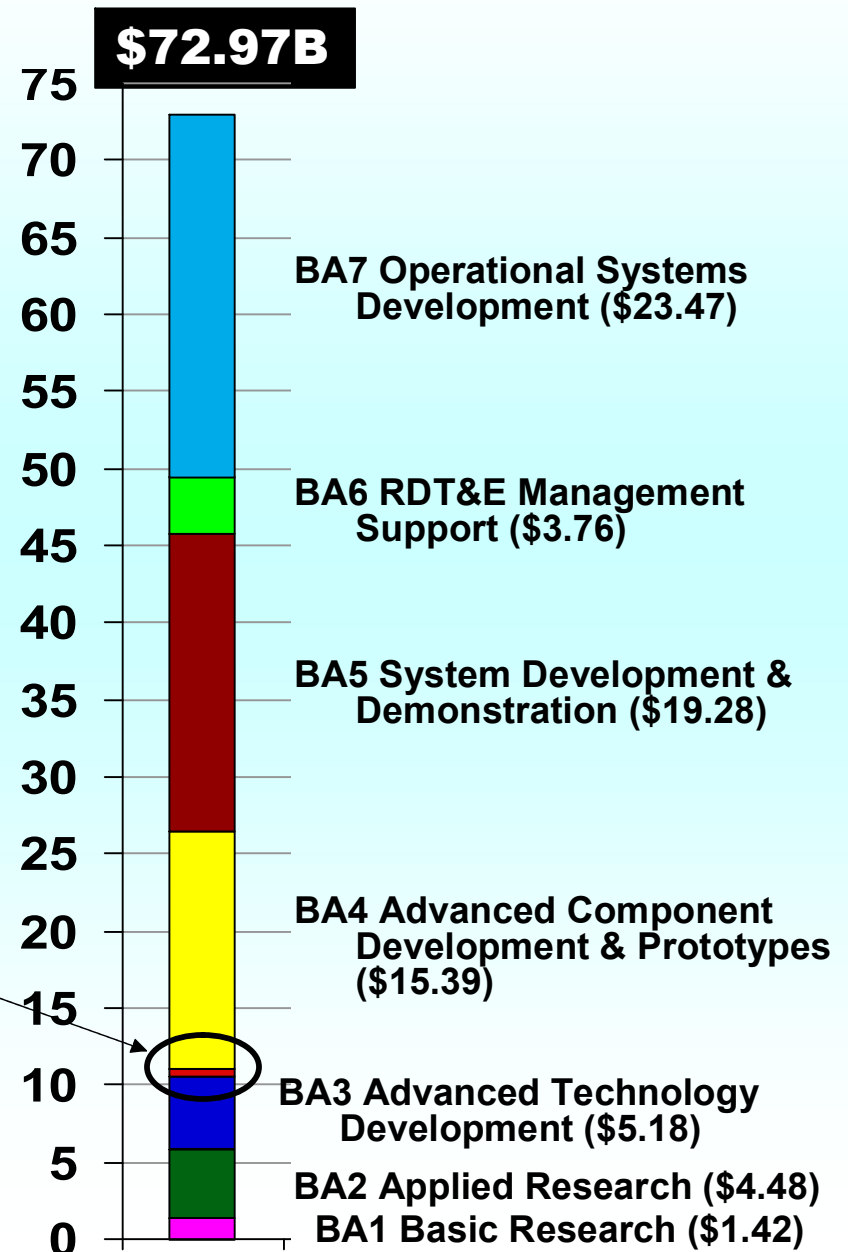
DDR&E/AS&C Total is \$0.552 B

(Includes USJFCOM \$0.220B)

Technology Base
(BA1 + 2) = \$5.90B

Science and Technology
(BA1 + BA2 + BA3 = \$11.08B)

15% of RDT&E



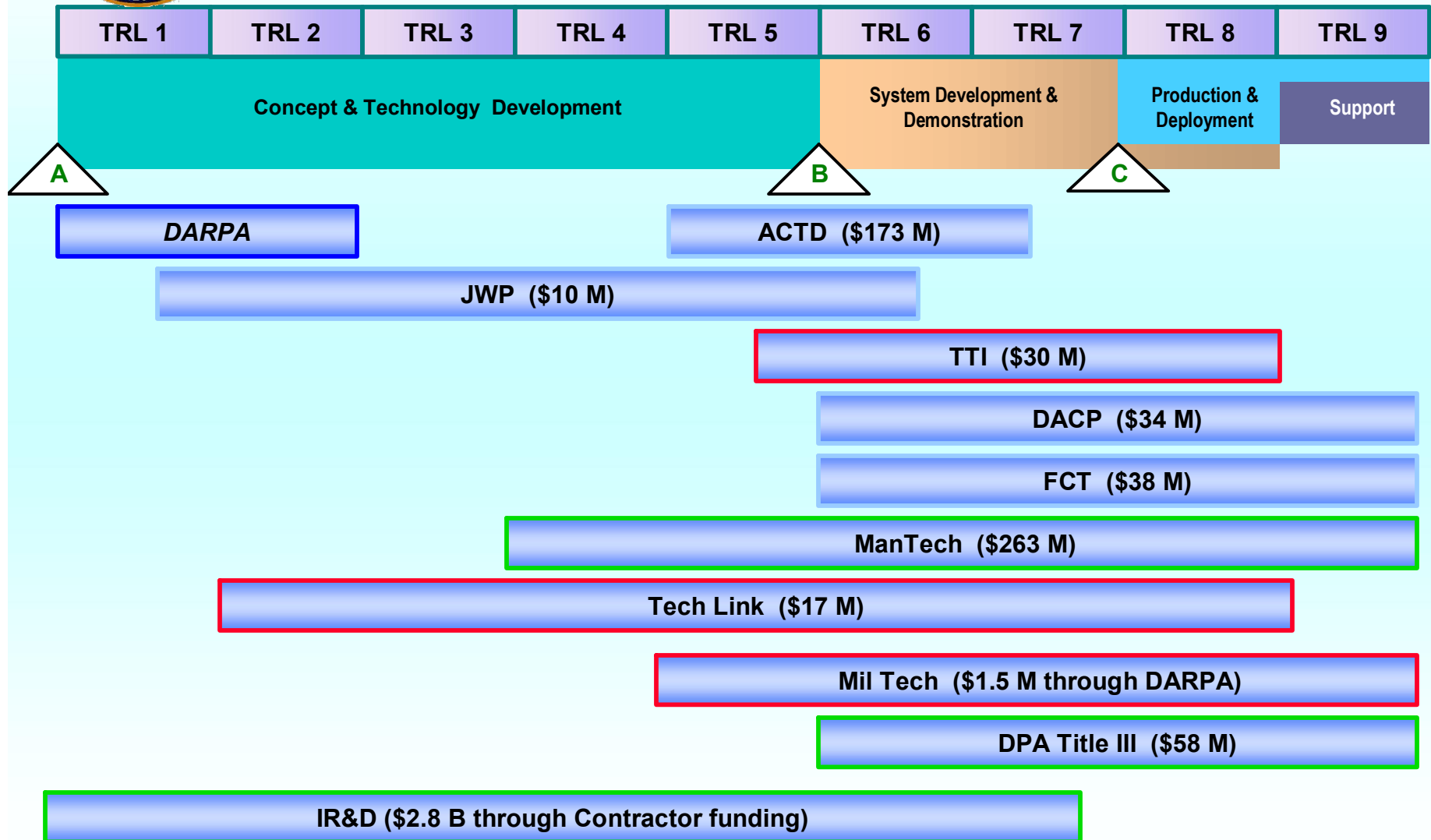


DUSD (AS&C) Transition Programs

Pre-Systems
Acquisition

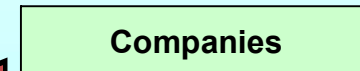
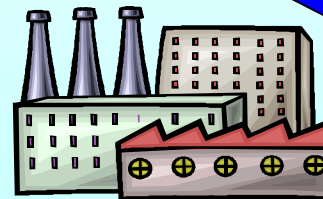
Systems Acquisition (Engineering Development,
Demonstration, LRIP & Production)

Sustainment &
Maintenance





DoD



Technology Transfer

Technology Transition

Based on:

15 USC 3710-15, Technology Innovation

10 USC 2515, Office of Technology Transition

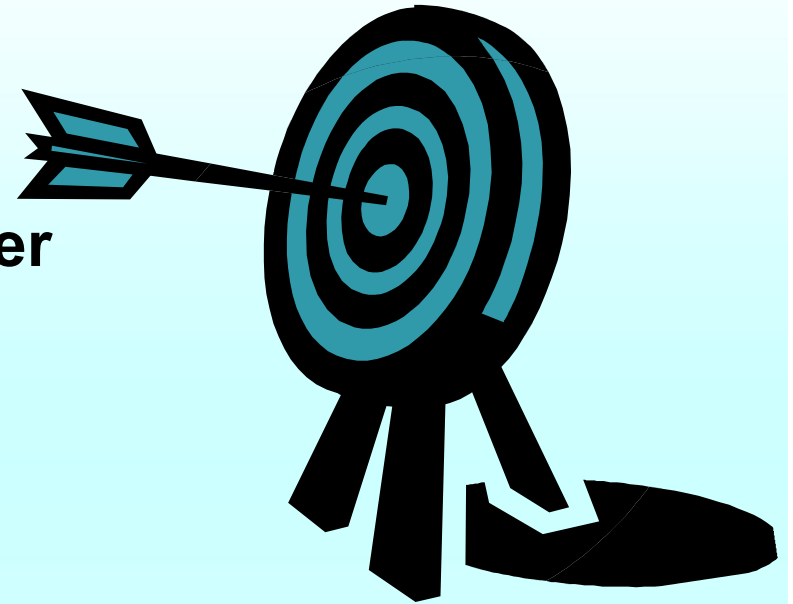
10 USC 2359a, Technology Transition Initiative



DoD Technology Priorities

➤ High Priority Focus:

- Reduce Demands on Manpower
- Increase Lethality and/or
- Reduce Logistics Footprint



➤ Thrust Areas:

- Counter Terrorism Capabilities
- Urban Operations Capabilities
- Weapons of Mass Detection & Response Capabilities
- Transformational Power & Energy Technologies
- Manufacturing Technology



Technology Transition Initiative (TTI)



- **Congressional Language:**
 - Facilitate the rapid transition of new technologies from science and technology programs of the Department of Defense into acquisition programs of the Department for the production of such technologies.
- **Objectives:**
 - (1) Accelerate the introduction of new technologies into operational capabilities for the armed forces.
 - (2) Successfully demonstrate new technologies in relevant environments.
- **Criteria**
 1. TTI Funding Accelerates Product Transition*
 2. Project is from DoD S&T Base *
 3. Cost Sharing to leverage funding*
 4. Less than 4 years TTI Funding*
 5. Established exit criteria
 6. Joint Focus
 7. Value to the Warfighter
 8. Technology mature – TRL 6 or 7
 9. Commitment to Acquisition/Procurement Path



OSD PoC: John Peeler, ODUSD (AS&C)
John.Peeler.CTR@osd.mil 703-607-5316
<http://www.acq.osd.mil/iti/about.html>



TECHNOLOGY TRANSITION

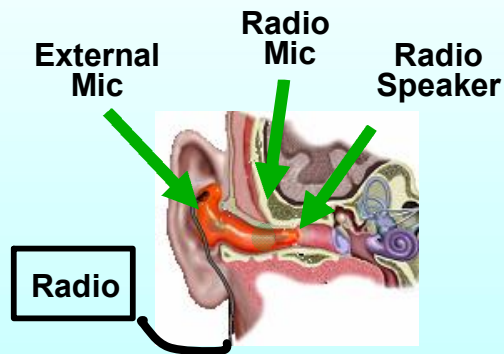
What is the intent?

- Moved into an acquisition program of record/capability
- Can be acquired/procured through normal DoD procurement (i.e., GSA schedule)
- Has addressed DOTMLPF satisfactorily
- Provides sustainable capability

Baseline Product/Technology no longer funded by S&T program.



Selected TTI Projects



Terminal Attack Communications (TAC) Earplug System

Provides blast protection while increasing communications in high-noise environments. Allows for enhanced natural hearing in quiet, clandestine environs.

Air Force Research Lab, General Dynamics
FIELDDED 12-18 MONTHS EARLIER
IN IRAQ APPROX. 3RD QUARTER FY 04



Water Purification System

Enable soldiers to treat up to 300 liters (nearly 80 gallons) of any available, non-brackish water source, eliminating the risk of their exposure to diseases and bio-chemical pollutants.

DARPA and MIOX Corp., Albuquerque, NM
PROCURED AND DISTRIBUTED 2,494 PENS in FY 03. PROCURE AND DISTRIBUTE 4,157 ADDITIONAL PENS IN FY 04

SEAL Delivery Vehicle (SDV) Adv. Reconnaissance System (ARS)

Improves SDV operator situation awareness/navigation ability, and provides capability to collect imagery in low-light and night-time conditions.

US/UK Cooperative Program, Navy Research Lab, SOCOM
ACCELERATES PURCHASE, 18 months

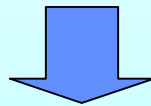




Technology Transfer Policy

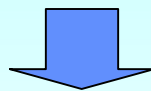
15 USC 3701-3715

Ensure Full Use of the Result of the Nation's Federal Investment in R&D



DoD Directive 5535.3

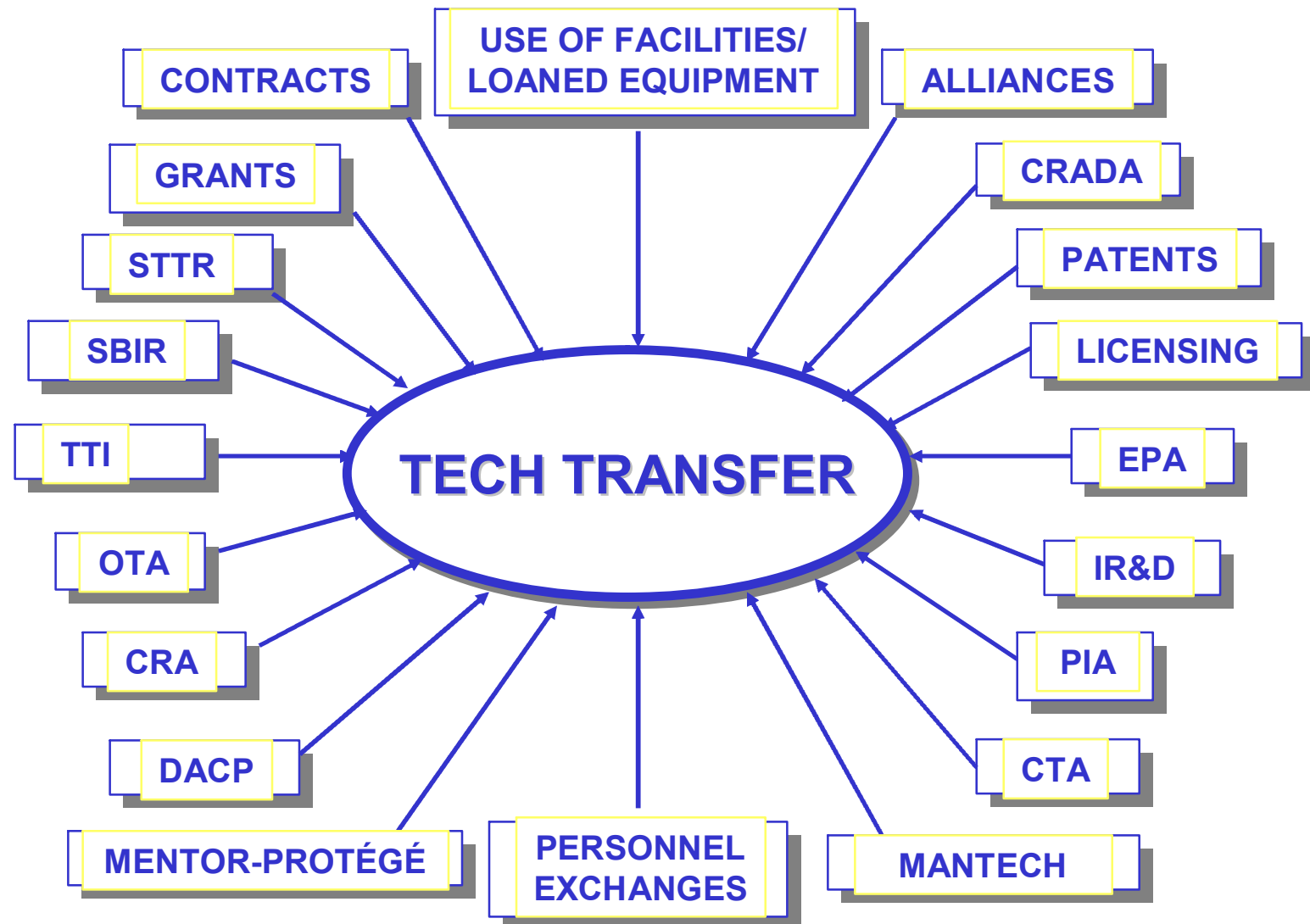
- **Domestic Technology Transfer Activities are Integral Elements of DoD's National Security Mission**
- **Must have a high-priority role in all DoD Acquisition Programs**

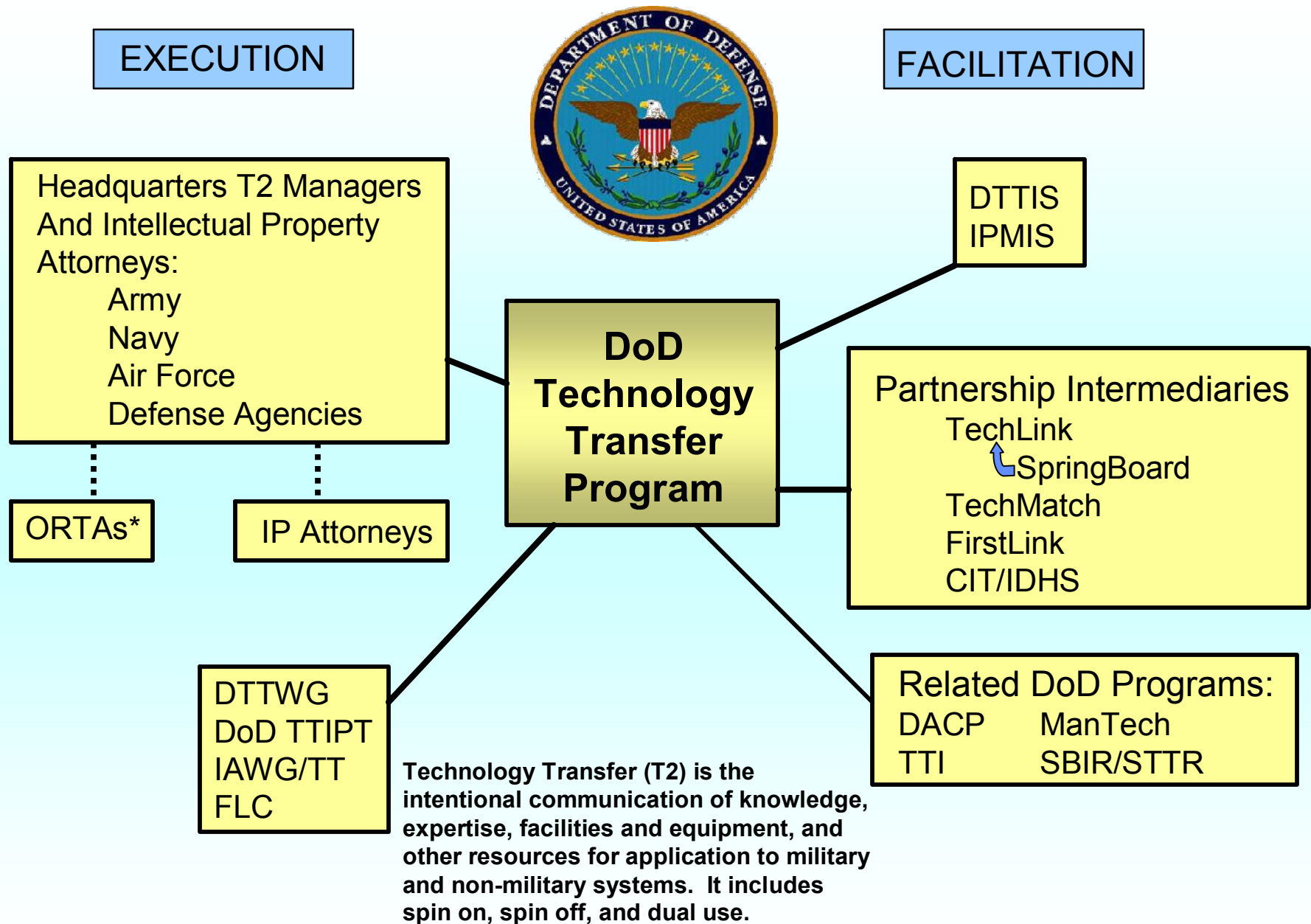


Technology Transfer Mechanisms

- **Cooperative Research and Development Agreements (CRADAs)**
- **Patent License Agreements (PLAs)**
- **Educational Partnership Agreements (EPAs)**
- **State & Local Government Partnerships (incl Partnership Intermediaries)**
- **etc.**

TECHNOLOGY TRANSFER MECHANISMS

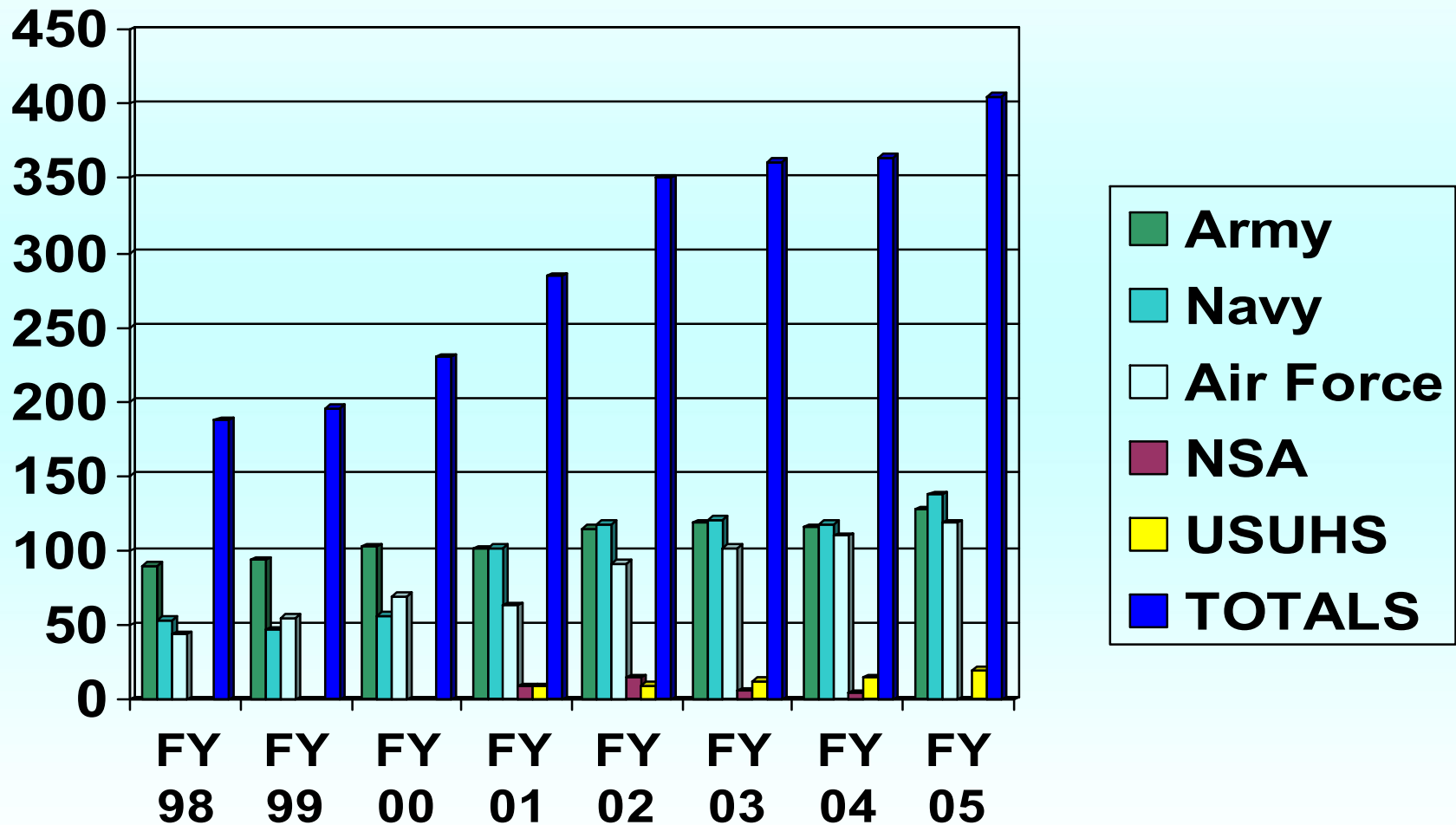




* ORTA = Office of Research & Technology Applications (T2 professionals who assist In-house S&Es in their T2 mission)



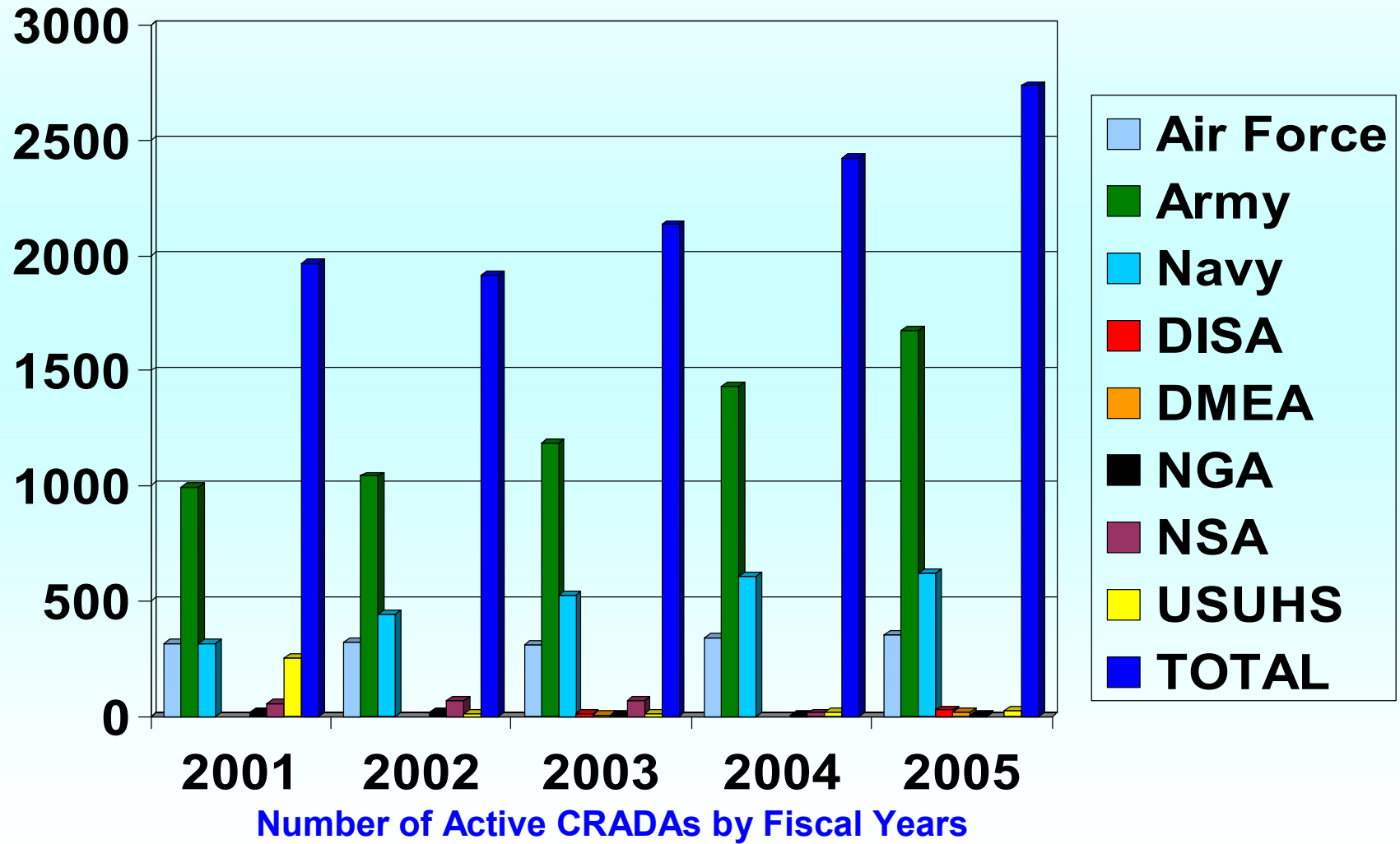
Active Patent License Agreements



Number of PLAs by Military Service/Defense Agency



Active CRADAs





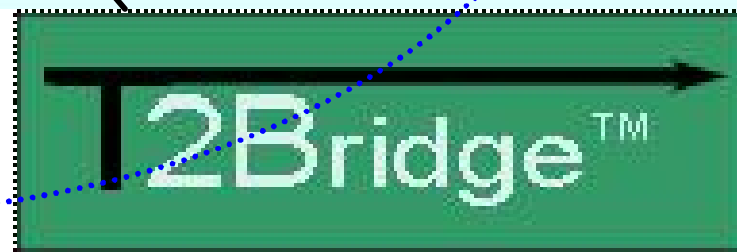
15 USC 3715

Partnership Intermediaries

- **Authorizes contracts/MoUs for partnership intermediaries**
- **Authorizes funding out of funds available for support of the technology transfer function**
- **Partnership Intermediary:**
 - An agency of a State or local government, or a nonprofit entity that **assists, counsels, advises, evaluates**, or otherwise cooperates with small business firms or institutions of higher education, that need or can make demonstrably productive use of technology-related assistance from a Federal laboratory.
 - To **provide services for the Federal laboratory** that increase the likelihood of success in the conduct of cooperative or joint activities of such Federal laboratory.



DoD Partnership Intermediaries





www.techlinkcenter.org

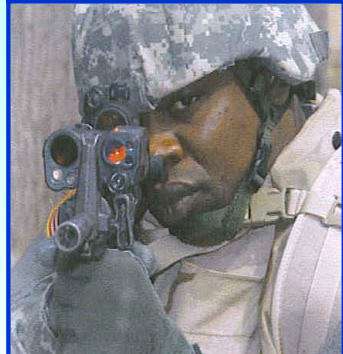


KEY ACTIVITIES

1. Licensing DoD-developed technologies to companies
2. Establishing cooperative R&D agreements between DoD labs and companies
3. Helping DoD acquire innovative technologies through the DoD SBIR and IR&D programs

STATISTICS

1. Over 250 technology transfer partnerships established between companies and DoD labs
2. Brokered 30% of all DoD patent licenses nationwide FY 2003 & 2004
3. Providing more than a 4:1 return on investment to DoD from technology transfer activities



Partnering with the Department of Defense



The Door Is Open ...

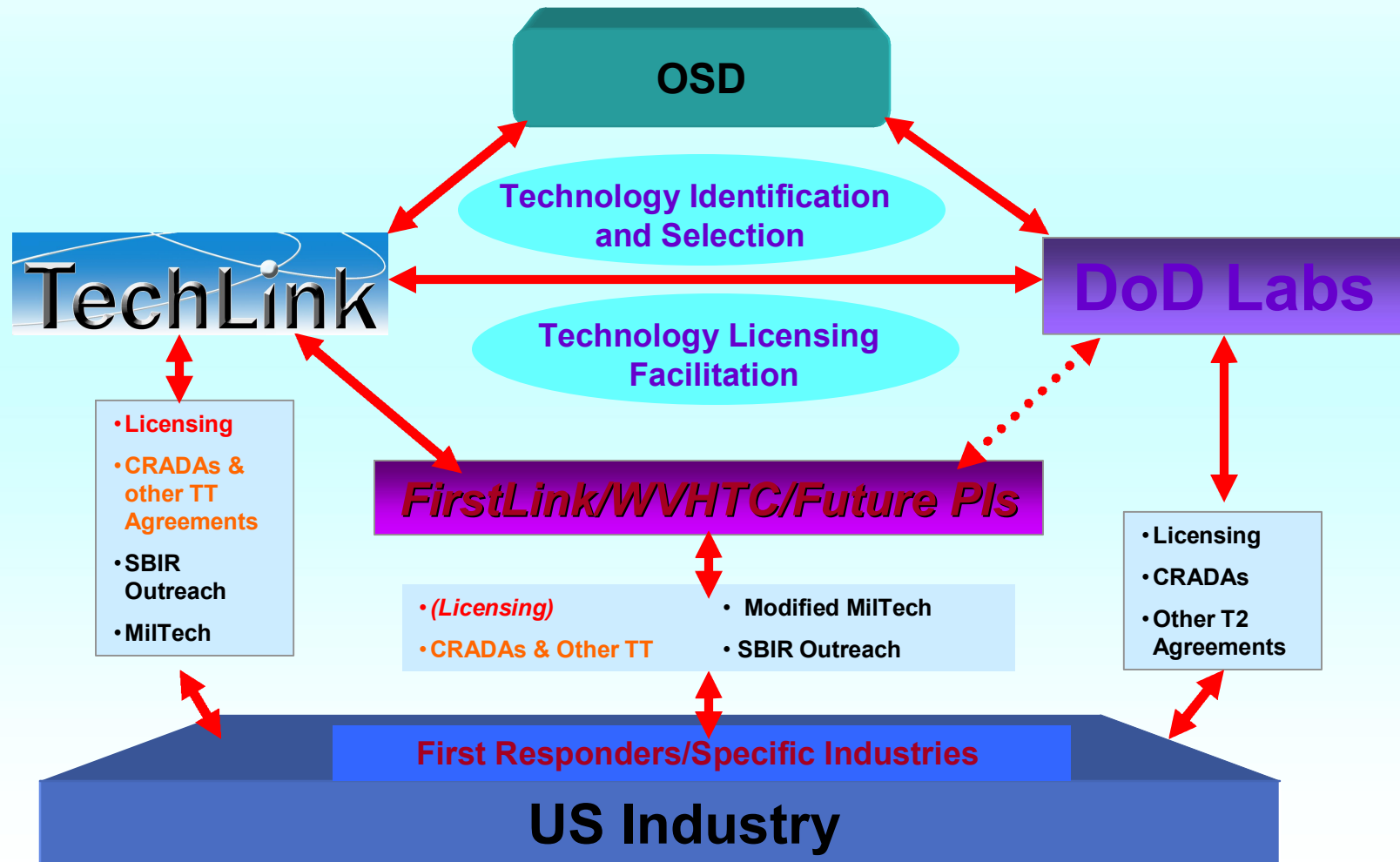
To introduce technology to the Department of Defense, through TechLink, partnering with DoD for faster product development and commercialization of new technologies has never been easier. From technology prospecting to licensing agreements, TechLink can connect you with the right DoD technologies and partnering opportunities. Take the first step. To learn more about TechLink and how it can assist your company, visit <http://techlink.montana.edu/techlink.htm>.

TechLink MDTechLink Center
Technology Transfer and Commercialization Services
Tel: 406.999.7733 • Fax: 406.999.7701 • www.montana.edu/techlink

Moving Technology from Minds to Markets



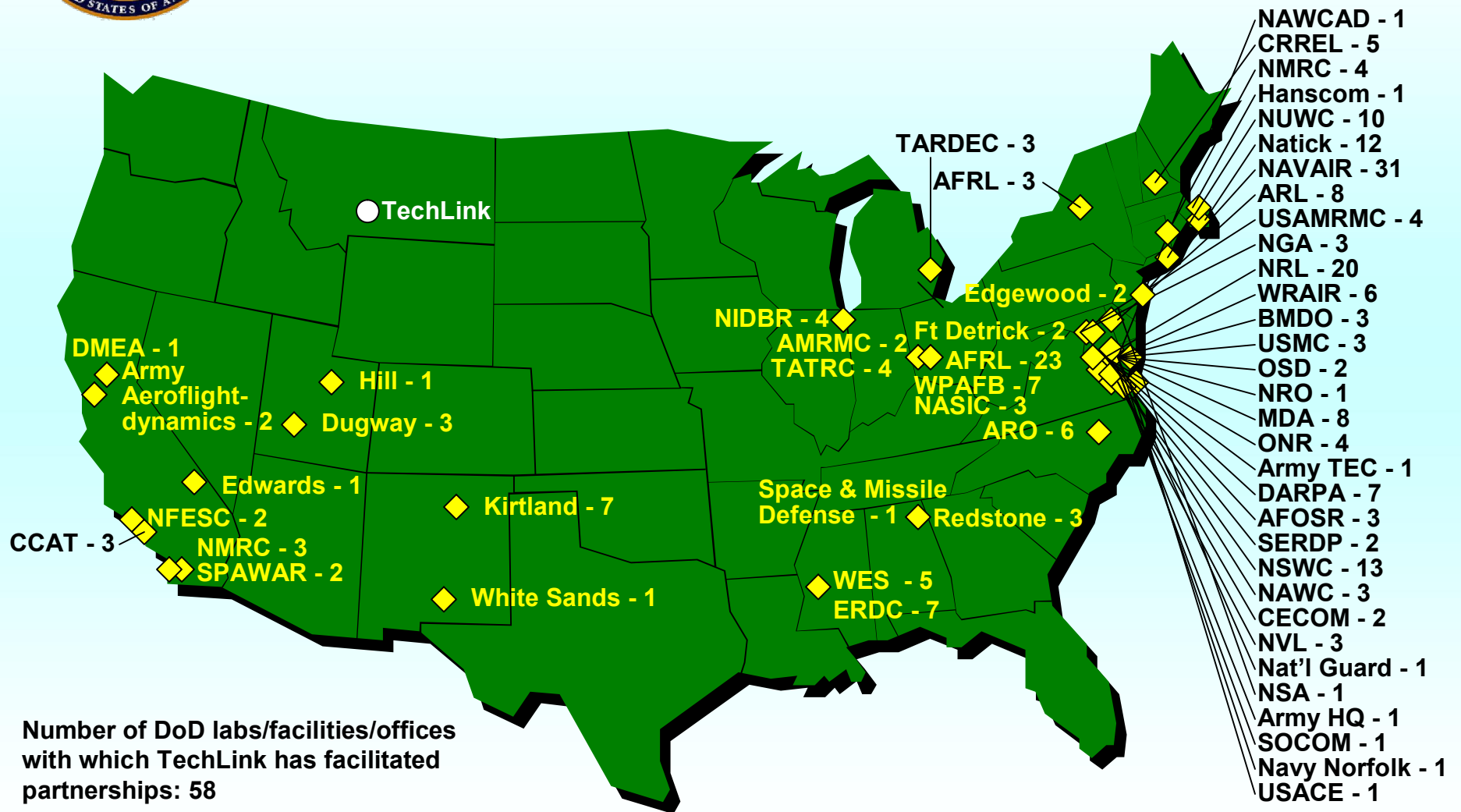
OSD Partnership Intermediary Network





DoD Lab Partnerships

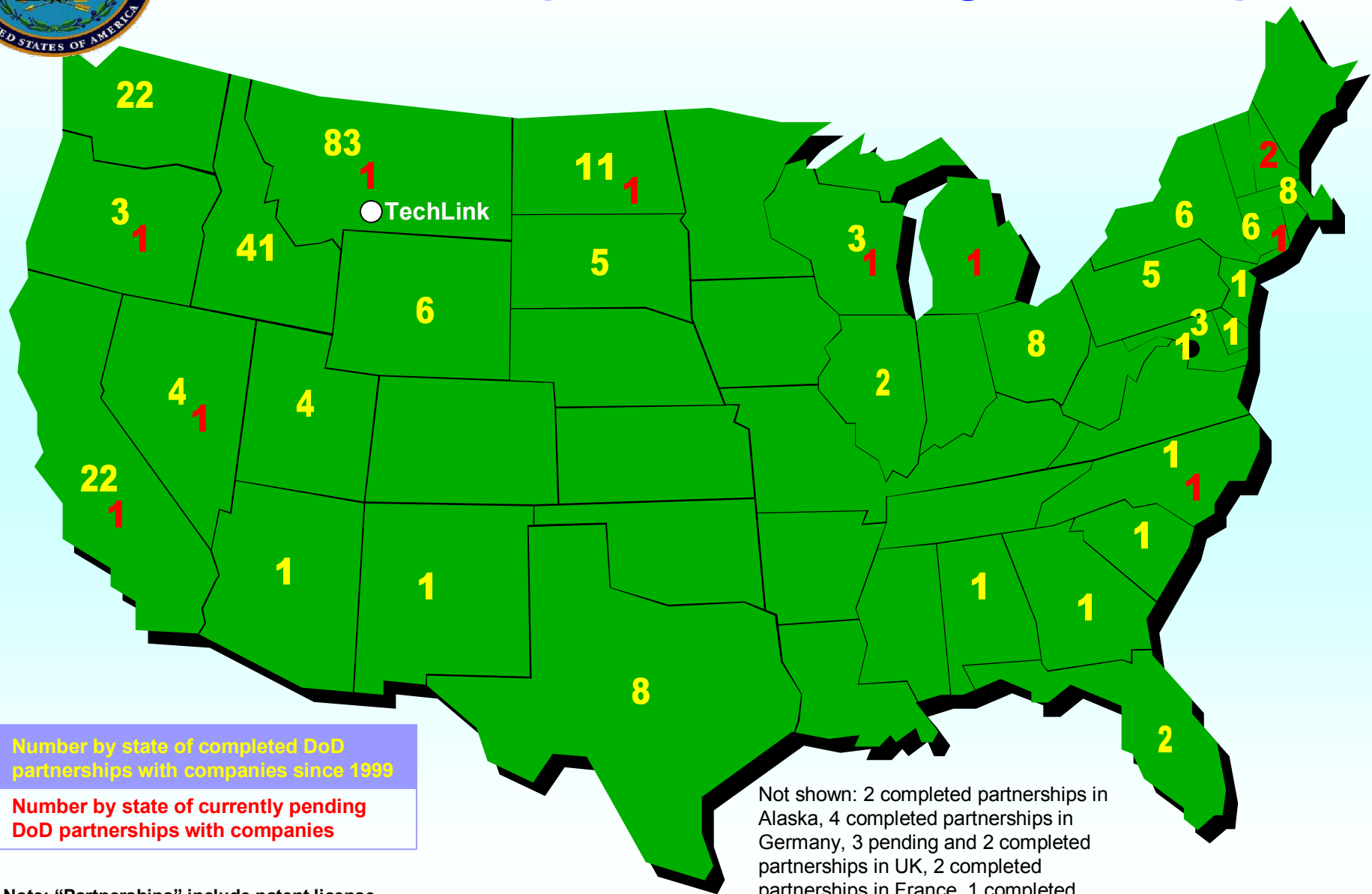
Totals represent completed TechLink-facilitated partnerships with DoD labs
1999-Present



Updated Sept. 30, 2005



TechLink Completed and Pending Partnerships



Note: "Partnerships" include patent license agreements, CRADAs, SBIR and other contracts, and test service agreements

Not shown: 2 completed partnerships in Alaska, 4 completed partnerships in Germany, 3 pending and 2 completed partnerships in UK, 2 completed partnerships in France, 1 completed partnership in Australia, and 2 completed partnerships in New Zealand

Updated Sept 30, 2005



IMPROVED ENERGY BARS



Objective: Rapidly commercialize and transition improved energy bar technology for commercial and DoD applications

Benefits:

- Provides high nutrition and sustained energy without spikes and crashes
- Improves physical and mental performance of warfighters

Participants:

- Invented by Natick Soldier Center
- Licensing assistance by TechLink

Status:

- Licensed “know how” under CRADA plus trademark and design
- Commercialized (www.hooahbar.com)
 - Available at 7-11, Wal-Mart, etc.
- Transitioned to soldiers in the field
 - Available in First Strike Rations

Technology: An improved energy bar for warfighter use that provides long-lasting, sustained energy for maximum performance

“In field tests with Army Rangers, it produced a 17% increase in physical endurance. . .enables warfighters to think faster, move quicker, and run farther.” --
Gerry Darsch, Director, Combat Feeding Directorate, Army Soldier Systems Center.



Wall Street Journal
Monday, March 7, 2005, p. B1

Technology & Health • Media & Marketing

MARKETPLACE

[THE WALL STREET JOURNAL]

From Military to Civilians, Hooah! Bar Crosses Front Lines

By Amy Chozen

RETIERED U.S. Army Sergeant Major Jack Clayton says he isn't interested in most of the energy bars available at his local grocery store in Kilbuck, a small town near the Fort Hood military base in central Texas. But the decorated Vietnam War veteran says he loves the Hooah! bar, the official nutrition bar of the U.S. military. “The Hooah! bar is good tasting and it gives me energy over a period of time, not just a spike,” says Mr. Clayton, 54 years old, who discovered the energy bars while visiting the troops in Iraq last fall. “I’d love to take them with me on fishing trips.”

The fast-growing energy-bar industry has thrived on the impulse purchases of overworked yuppies, exhausted athletes and diet-conscious soccer moms. But the Hooah! bar's military origin has created a new wave of nutritional energy-bar consumers who, like Mr. Clayton, are searching for the \$1.19 snack sold at supermarkets, hunting and fishing emporiums and convenience stores.

Five years ago, the Department of Defense Combat Feeding Directorate in Natick, Mass., developed the bar to give soldiers an extra boost. Unlike commercial bars, the Hooah! bar has the



Sgt Scott holds on overcast Hooah! bar with U.S. troops in Iraq.

evolved from “H.U.A.,” the abbreviated reference for the alternative response “Hunt, Understand and Acknowledged.”

military, a sentiment that has transferred to the marketplace. “No matter what people think of the war in Iraq, everyone supports the troops,” says Christian D’Andrea, who discovered the bars two years ago when he was filming a documentary about the military. Last winter, Mr. D’Andrea, 51 years old, and his brother Mark, 34, and Phil, 35, gained exclusive rights to license and distribute the bars to civilian consumers.

Under the agreement, the Los Angeles-based D’Andrea Brothers LLC manufactures, distributes and markets the bars to the private sector and its fans, giving a portion of all proceeds back to the military’s research and development department. Christian and Mark D’Andrea, Harvard graduates and Eagle sales or marketing, saw built in potential in the bar’s military association. Each bar’s silver packaging reads “The performance nutrition bar created for the U.S. military” and features a “Thank You”



FirstLink



The Department of Defense National Center
of Excellence for First Responder Technologies



Partnership
Intermediary
facilitating
transfer of DoD
technologies for
use by the first
responder
community.

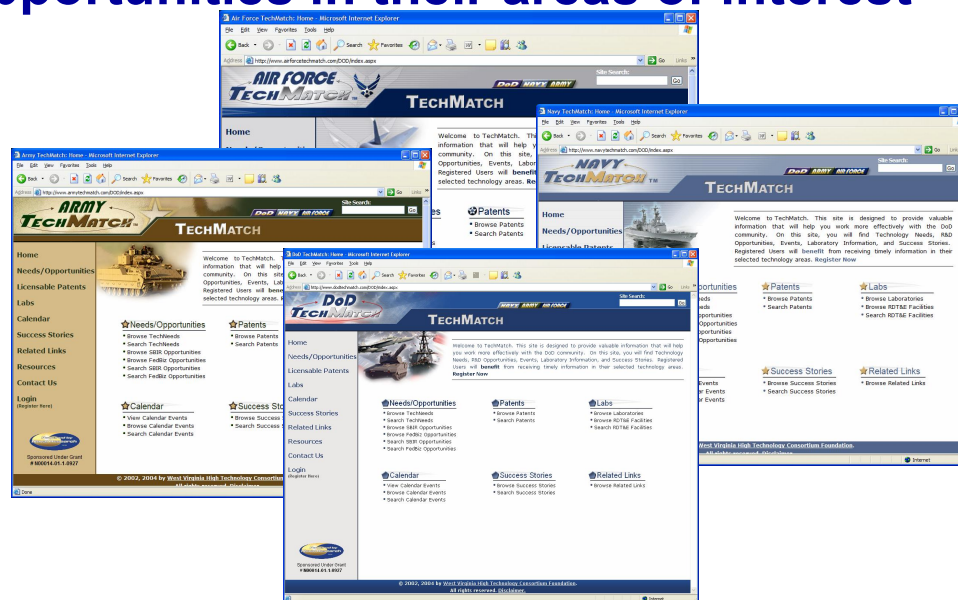


"TECHNOLOGY FOR YOUR WORLD"™

Purpose

www.dodtechmatch.com

- Foster T2 interactions between DoD, industry, and academia using a web-based portal
- Provide a single location for information on DoD labs, test facilities, and patents
- Match users with potential opportunities in their areas of interest
 - FedBizOpps
 - Grants.gov
 - SBIR/STTR
 - Calendar Events
 - Hot Technologies



Dept. of Commerce / NIST / MEP

Manufacturing Extension Partnership

*Supporting U.S. industry, Federal Laboratories,
and DoD suppliers with technology transfer,
transition and commercialization.*

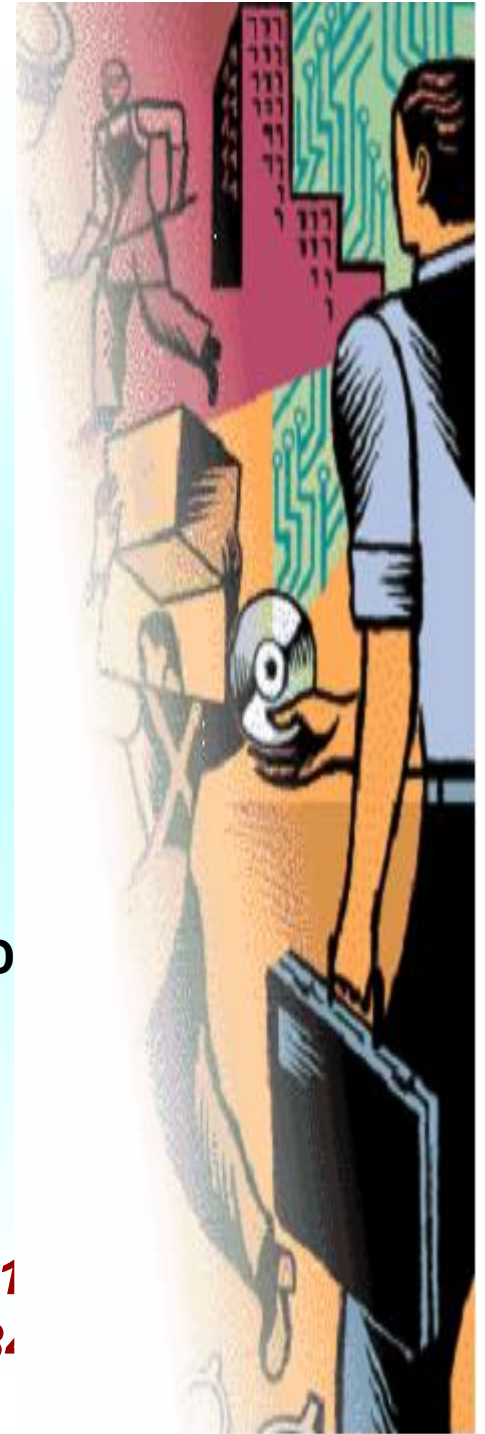
**Goal: to help manufacturers transition
new technology more quickly, efficiently,
and cost-effectively to the U.S. warfighter.**

The MEP National System strengthens the global competitiveness of U.S. manufacturing by providing business and technical assistance to companies using DoD technology, or to companies that are developing new technologies that enhance the value of products and services supplied to Defense.

Dan Pitkin, Business & Technology Advisor

OSD (AS&C) OTT: daniel.pitkin@osd.mil 703-607-531

DOC (NIST) MEP: dan.pitkin@nist.gov 301-975-473





- **Goal:** To help manufacturers *transition* new technology more quickly, efficiently, and cost-effectively to the U.S. warfighter
- Currently implementing a pilot program in Montana and Northwest
- This partnership is adding significant value to DoD technology transition
- **Key Objectives:**
 - Accelerate the transition of new technology to the U.S. warfighter
 - Lower the cost and cycle time of technology acquisition
 - Enable DoD to more fully benefit from its R&D funding to US small business





TechLink



MILTECH

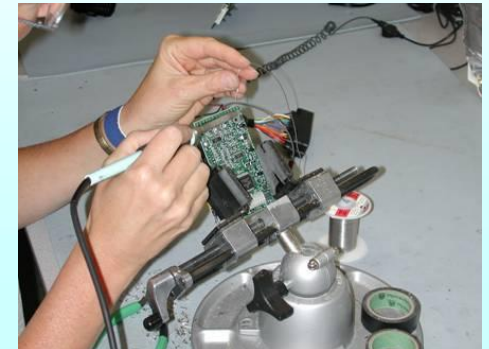


An affiliate of the NIST Manufacturing Extension Partnership



Targeted companies include:

- TechLink clients that have licensed DoD technology or entered into DoD CRADAs
- TechLink clients that have developed DoD-related technology with SBIR funding
- MEP clients that are undertaking manufacture of new technology for DoD



Key activities include helping companies:

- Contact DoD PMs and determine DoD technical needs and requirements
- Scale-up and manufacture new technology for DoD use (issues of equipment, tooling, materials, costs, etc.)
- Get new technology into DoD operational use – *faster, better, and cheaper!*





U.S. AIR FORCE



EOD Technology Division



- **Based on robotics technology developed at Tyndall AFB**
- **Reduced Manufacturing Costs & Increased Durability & Reliability**
- **\$9.6 Million Contract to build 2325 BomBots for NAVEODTECHDIV**
- **Great example of Agile Acquisition**
- **Saves Lives**





The DoD Mentor-Protégé Program assists small businesses (Protégés) to successfully compete for prime contract and subcontract awards by partnering with large companies (Mentors) under individual, project-based Agreements.

http://www.acq.osd.mil/osbp/mentor_protege/index.htm



Mr. Victor Ciardello
DoD Office of Small Business
Victor.ciardello@osd.mil



OUR MISSION AND GOAL

To provide technical capabilities for the warfighter – the ultimate customer of DoD's technology investments.